F-35 Lightning II Program

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FLIGHT PATTERN Q&A WITH FIRST MILITARY TEST PILOT TO FLY THE X-35 AND F-35

NAVAL AIR SYSTEMS COMMAND, PATUXENT RIVER, Md. – On April 3, U.S. Marine Corps Col. Art Tomassetti became "Lightning 35," the 35th test pilot to fly the F-35 Lightning II Joint Strike Fighter. Tomassetti is a trailblazer as he was an original test pilot for the X-35, precursor to today's F-35 aircraft in flight test. We asked Tomassetti to share his history with the program.

Now: U.S. Marine Col. Art Tomassetti in the cockpit of F-35B test aircraft BF-1 April 2, 2012, before his first flight in an F-35 Lightning II Joint Strike Fighter at Naval Air Station Patuxent River, Md. On April 3, Tomassetti became the first pilot to fly all three variants of the X-35 and the F-35. (Photo courtesy of Lockheed Martin)

Q. First off, I think people want to know how you would compare your first flight in the F-35 with your first flight in the X-35?

TOMASSETTI: Amazingly enough, the events were very similar. The family resemblance between the aircraft is definitively there. They have in common solid flying qualities--making them very easy for basic flying tasks. They also fly like their simulators, which is good, in that it makes for few surprises when you are out there on flight No. 1 in a single-seat aircraft. Even some of the faces were the same, as the JSF program has retained many talented people who were part of the concept-demonstration phase.

Both flights were similar profiles: a [standard military power, without afterburner] takeoff; some basic test- and aircraft-handling maneuvers between 5,000 and 20,000 feet to get a feel for how the aircraft handles, with the landing gear up and down; some basic formation-flying tasks; and several landings. And, to be honest, for both flights I was more worried about executing the plan and not making any mistakes than I was about anything else.

Q. How is the F-35 different from the X plane?

TOMASSETTI: While the airplanes look similar, they are very different. The X-35 was a prototype with very basic avionics; the F-35 is a combat aircraft that provides its pilot with unprecedented situational awareness. The F-35's cockpit is very much more advanced and clean, predominated by its large, touch-screen color display, and has remarkably few switches, knobs and gauges. The Helmet Mounted Display is very different from our legacy gauges and dials or fixed Heads-Up Display.

The X-35 was a prototype designed to prove and validate a proposal for a production airplane. The F-35 is that production airplane. We have come a long way between the X-35 and F-35 and, while we still have more to do, it is clear we are on track to a remarkable airplane.

Q. How did you celebrate your accomplishment?

TOMASSETTI: I would love to take credit for it being my accomplishment, but even my ego can't go that far. Both the X-35 and F-35 flights were team efforts, and I had my job to do like everyone else. Everybody is part of that mission success.

My first X-35 flight occurred on 10 November [2000], the Marine Corps' birthday, which was a great addition to the excitement of the day. Today's flight was just a day in April, but the excitement was still there. While I got wetted down on both occasions, on first flight in the X-35, the crowd was a little bigger and my wife and then-2-year-old daughter were there to greet me when I came back. The first F-35 flight was a smaller crowd, and I just sent my wife and daughter a text message letting them know I was done.

Q. You're the vice commander of the 33rd Fighter Wing at Eglin Air Force Base where fleet pilots, not trained test pilots, will be going for their initial training. With this flight, what are you going to bring back to them?

TOMASSETTI: First, I had to go through academics and simulator training just like our students at the 33rd. The ground training prepared me well, so I know our curriculum will serve the students well for their first flights.

Second, with more than 10 years of experience as a senior test pilot with the JSF program, I bring unique perspective. I understand where we are with the aircraft and the training system today and how we got here. I believe I can better prepare the 33rd Fighter Wing for training those first F-35 pilots and maintainers.

Q. In your opinion, what will the F-35 bring to the fleet?

TOMASSETTI: First and foremost, the fleet gets an airplane that is easy to fly and goes further in taking care of them than legacy airplanes they've flown. Considering that we have three variants of this aircraft, which include a carrier variant and [short takeoff and vertical landing] variant, something as seemingly simple as being "easy to fly" is really an amazing engineering achievement.

Even in this basic configuration of the F-35, there is a tremendous amount of information available to the pilot. We start flying now with the basic flight capabilities and aircraft systems and we master them. As the aircraft's capabilities increase, we'll increase what we train until we have our full combat-capable aircraft configuration with pilot and maintainers who are expert operators. That's the key – going from just flying the aircraft to employing the aircraft. I am a Marine; I know what tactical aviation needs to bring to the battlespace. The F-35 will bring tremendous capabilities to U.S. and coalition forces to allow us to support those troops on the ground and dominate the battlespace.

Q. You're the only pilot to fly all three X-35 variants and the F-35. You were the first person to fly the famous Mission X in 2001: a short takeoff, level supersonic dash and vertical landing in a single flight. How did you get to where you are now, and what would you tell today's young, high school and college students interested in becoming test pilots?

TOMASSETTI: With the list of events you mentioned, I'd start off by reminding myself how fortunate and privileged I am just to be in the position to even answer the question. I would encourage them to develop a desire to be part of something, strive to make a difference and refuse to become discouraged and quit.

Here's why: Early in my career, I looked to find the best way I could serve the Marine Corps, and pursued becoming a test pilot. I applied six times. I wasn't accepted into the test-pilot program until my seventh application. It would have been easy to get discouraged and just let it go, but I believed it was the path I needed to stay on.

I can trace where I am today back to my days at St. Thomas Aquinas High School in Florida and at Northwestern University. Those were the places where I learned the value of being part of a team. I was mentored by some great upperclassmen, teachers and instructors at my ROTC unit and encouraged to strive to be better, achieve more, and learned the true meaning of the word commitment.

I've had the opportunity to work with truly exceptional people, face and overcome challenges, and do great things. Most importantly, I have been a part of a team that has achieved something, that has made a difference in developing an aircraft that will protect the pilots that fly it and enable them to protect us all.

My career has been tremendously rewarding, and I would hope that my story would at least get them curious and maybe start them thinking.